

REDUCING WORKPLACE ACCIDENTS IN THE CONTEXT OF SOCIAL RESPONSIBILITY ACCORDING TO ISO 26000's GUIDELINES: A CASE STUDY OF THE NATIONAL DRILLING COMPANY (ENAFOR) IN HASSI MESSAOUD

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Abstract

This study examines the extent to which the National Drilling Company (ENAFOR) implements social responsibility guidelines based on the ISO 26000 in order to reduce workplace accidents, by analyzing their relationship and impact. A quantitative, descriptive-analytical approach was adopted. Data were collected through 104 questionnaires randomly distributed to construction site workers and analyzed using SPSS (V.25). The findings reveal a significant relationship and impact between CSR practices and workplace accidents, with employee social care emerging as the most influential dimension in improving workplace safety outcomes. The results also indicate that occupational health and safety practices, awareness of workplace risks, and training programs contribute significantly to accident reduction. Overall, ENAFOR demonstrates a strong commitment to CSR implementation and alignment with ISO 26000 principles, reflecting a positive evolution toward improved safety performance. However, several gaps remain, particularly

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in safety training effectiveness, communication systems, reporting mechanisms, monitoring of safety measures, employee engagement, and subcontractor compliance. These findings highlight both the progress achieved and the areas requiring improvement to further strengthen workplace safety and ensure sustainable organizational performance.

Keywords: *international standard ISO 26000; social responsibility; workplace accidents; ENAFOR.*

JEL Codes : *J28, M14, K32*

Introduction

Developed countries have increasingly embraced the philosophy of corporate social responsibility (CSR) and its practical applications within organizational settings, particularly with the expanding role of the private sector in fostering economic development. In contrast, developing countries have historically shown comparatively limited engagement with CSR practices. However, in recent years, growing efforts across the Arab world have sought to raise awareness among business leaders regarding their societal responsibilities. In Algeria, this shift is reflected in the gradual adoption of international frameworks such as ISO 26000, with organizations beginning to integrate its principles and dimensions into their operational practices.

Historically, CSR emerged as a response to pressures exerted by various stakeholders, including employees, consumers, and civil society. Over time, it has evolved into a more voluntary and strategic organizational practice, embedded within corporate governance and management systems.

Among all stakeholders, employees represent a central pillar of the production process, making their well-being a key concern of CSR. Nevertheless, they remain continuously exposed to occupational risks, particularly workplace accidents, which constitute a major challenge for organizations due to their significant human, economic, and social consequences.

Workplace accidents are especially prevalent in high-risk sectors such as industry and petroleum activities, where complex operational environments increase exposure to hazards. While such risks cannot be entirely eliminated, their frequency and severity can be significantly reduced through the adoption of effective preventive measures and responsible management practices.

In this regard, organizations play a crucial role in ensuring safe working conditions by implementing CSR principles. The ISO 26000 standard provides a comprehensive framework for this purpose, guiding organizations in integrating social responsibility into

labor practices and working conditions, thereby contributing to the prevention of workplace accidents.

Based on the above, the main research question of this study is formulated as follows: To what extent does the National Drilling Company (ENAFOR) implement ISO 26000 guidelines in reducing workplace accidents?

This main question is supported by the following sub-questions:

- What is corporate social responsibility and what are its main dimensions?
- What are workplace accidents and under what conditions do they occur?
- What are the key methods for preventing workplace accidents?

Study Objectives

Defining the theoretical concepts related to social responsibility and workplace accidents.

Defining the international standard ISO 26000:

- Finding out and measuring the effect and relationship between implementing the social responsibility guidelines according to the international standard ISO 26000 and reducing workplace accidents at the National Drilling Company. (ENAFOR)

- Providing suggestions and recommendations based on the study results obtained through measuring the effect and relationship between the study variables.

Study Methodology

We relied on the quantitative approach, given that the nature and type of our study require analysis, measurement, testing of the research hypotheses, and obtaining statistically significant results regarding the research problem.

Regarding the practical aspect of the study, a descriptive analytical method was employed, using a study tool in the form of a questionnaire that collected the required data from the study population.

Literature review

Corporate Social Responsibility (CSR) has evolved from a normative and philanthropic concept into a strategic framework that integrates social, economic, and ethical dimensions into organizational performance. Previous studies have emphasized that CSR is no longer limited to voluntary initiatives but has become a key driver of sustainable development and organizational competitiveness. (Scherer & Palazzo; Gyoshev, 2011) provided an extensive analysis of the nature, functions, and core characteristics of CSR, highlighting the transition from philanthropic and compliance-based approaches toward

strategic integration within business models. While this contribution offers a valuable conceptual overview and situates Bulgarian CSR within international standards such as SA 8000 and ISO 26000, its predominantly descriptive orientation underscores the need for empirical studies linking CSR principles to concrete organizational outcomes.

Empirical studies on occupational safety indicate that demographic and occupational characteristics including age, educational attainment, work experience, and marital status play an important role in determining workplace accident occurrence and severity (Işsever et al., 2008), (Ghamari et al., 2012). These findings support the argument that occupational health and safety (OHS) constitutes a critical component of socially responsible management, particularly in contexts where workforce vulnerability remains high.

More recent empirical evidence strengthens this perspective by explicitly linking CSR-driven safety practices to organizational performance (Bautista-Bernal et al., 2024).

Drawing on the principles of ISO 26000, conceptualize workplace accident prevention as a strategic pillar of CSR. Their study demonstrates that a strong safety culture characterized by employee participation, continuous improvement, and systematic risk management leads not only to a reduction in accident rates but also to enhanced financial performance and corporate reputation. This confirms that OHS, when embedded within a CSR framework, functions as a driver of sustainability rather than a mere regulatory obligation.

Similarly, Koo and Ki (2020) provide empirical evidence that higher CSR performance is associated with a decrease in work-related injuries and lost working days. These findings reinforce the argument that CSR-oriented policies contribute not only to social well-being but also to organizational efficiency and performance.

Despite these advancements, the existing literature remains largely concentrated in developed economies, with limited empirical research focusing on developing countries, particularly in the Algerian context. Moreover, few studies have explicitly examined the role of ISO 26000 especially its sixth clause related to labor practices and working conditions in reducing workplace accidents

In the Bulgarian socio-economic context, CSR has also been examined through the lens of labor remuneration and social equity. Kalchev (2012), as well as Bellahsene & Bekour (2022), analyze the relationship between CSR principles and wage policies, highlighting persistent disparities in labor compensation. Their analyses emphasize that integrating CSR into corporate strategies can contribute to fairer remuneration systems, improved employee well-being, and strengthened ethical commitments. These studies

collectively suggest that CSR in Bulgaria remains an evolving practice, requiring a stronger alignment between normative principles and measurable organizational and social outcomes.

Overall, the reviewed literature indicates that while CSR in Bulgaria has been well documented at the conceptual level, there is a growing need for integrative approaches that connect CSR standards particularly ISO 26000 with occupational safety, labor practices, and organizational performance. This gap justifies the present research, which seeks to contribute empirically to understanding how CSR-oriented safety and labor policies generate value for both employees and organizations within the Bulgarian context.

Study Hypotheses

Based on the literature review, which highlights the significant relationship between Corporate Social Responsibility (CSR), occupational health and safety practices, and workplace accident reduction, the following hypotheses are formulated:

H1: The implementation of social responsibility guidelines based on ISO 26000 has a significant effect on reducing workplace accidents at ENAFOR.

H2: Employee awareness has a statistically significant effect on the reduction of workplace accidents at ENAFOR.

H3: The application of occupational health and safety (OHS) rules and the design of a safe working environment have a statistically significant effect on reducing workplace accidents at ENAFOR.

Conceptual framework

Defining Social Responsibility

Writers, researchers, and organizations gave different definitions for social responsibility. The following table clarifies different perspectives on social responsibility:

Table no. 1 - The Dimensions of Social Responsibility

Entity	Pioneers	Definition
Definition of Researchers and thinkers	Haward Bowen	It is the businessmen's responsibility to monitor policies, make decisions, and undertake activities that align with society's goals.
	Drucker 1977	It is the commitment towards the society in which it operates.
	Carroll Archie	It is a tool to cover the economic, legal, and ethical aspirations of society.

	Holmes.	A moral, human, and moral obligation that organizations bear towards the society in which they operate.
Definition of International Bodies and Organizations	World Bank	The commitment of business owners to contribute to sustainable development, and to work with the local community and society as a whole to improve the standard of living in a way that serves trade and development simultaneously.
	World Business Council	"The continued commitment of business companies to ethical behavior and to contribute to economic development while improving the quality of life of the workforce and their families, as well as local communities and society as a whole "
	International Chamber of Commerce	All attempts that contribute to companies volunteering to achieve development because of ethical and social considerations, which means that; social responsibility depends on good initiatives from companies without a legal obligation, because they are achieved through conviction and learning.
	The European Union	A concept undertaken by companies that involves social and environmental considerations in their operations and interactions with stakeholders in a voluntary manner.
	International Organization for Standardization	The practices carried out by an organization to take responsibility resulting from its activities on the community and the environment to make its activities consistent with the benefits of society and sustainable development.

Source: Developed by us based on the theoretical framework.

The Dimensions of Social Responsibility

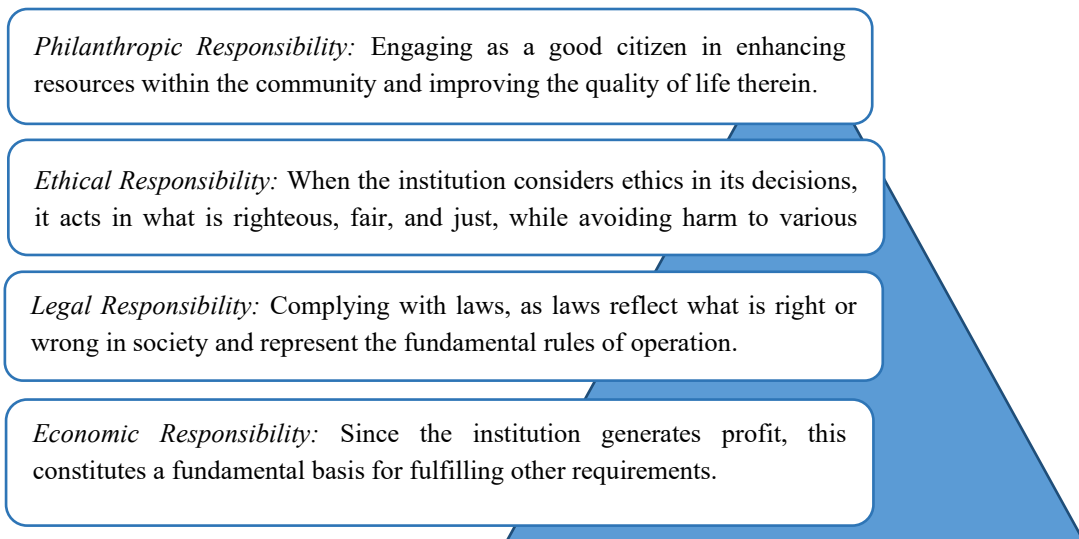
Economic Responsibility: It means providing goods and services specifically designed to meet the needs of consumers while continuously working to generate wealth for shareholders.

Legal Responsibility: It is the ability of the institution to carry out its activities within the framework of compliance with state laws and regulations, as well as the laws established by the institution itself.

Ethical Responsibility: It focuses on all activities of the institution that are considered fair by the institution itself, not subject to a legal framework but rather possessing ethical principles.

Philanthropic Responsibility: refers to voluntary and charitable activities carried out beyond legal and ethical requirements to enhance social welfare (Carroll, A. B., & Shabana, K. M., 2010)

Figure no. 1 The Carroll Pyramid of Social Responsibility



Source: Taher Mohsen Mansouri Al-Ghalebi, Mohsen Al-Amri, Social Responsibility, Business Ethics, and Society, Wael Publishing and Distribution House, Amman, Jordan, 1st edition, 2008, p. 83.

Workplace Accidents

Workplace Accidents Definition

The International Labor Office in Geneva defines workplace accidents in the scientific guidebook for work inspectors as: “any accident that occurs due to or during work, and results in fatal or non-fatal injuries. For instance: falling from a high height.” (International Labour Office. Jahr, 2015).

A workplace accident is an occurrence arising out of, or in the course of, work resulting in either fatal or non-fatal injury (Magalhães, L. M. C. A., et al., 2022).

Additionally, workplace accidents can be legally defined. The Algerian legislature defined workplace accidents in Law 83-13, dated 21 Ramadan 1403, corresponding to July 2, 1983, related to workplace accidents and occupational diseases in Article 06. This article defines workplace accidents as: “any accident resulting in physical injury caused by a sudden and external cause that occurred within the work scope

Through the previous definitions, a definition of workplace accidents can be given as follows: “Every sudden and unexpected incident that occurs during work or related activities, including exposure to natural, mechanical, chemical hazards, as well as any severe stress, fatigue, or other risks that lead to the death, physical injury, or severe illness of the affected worker.”

Workplace Accidents Conditions

In order for an accident to be considered a workplace accident, the following conditions must be met:

The accident should occur during working hours: This indicates that the accident affecting the worker must occur while they are actively engaged in their duties, even if it was not directly caused by the tasks they were performing, and even if it happened during a break.

Physical injury (bodily harm): This means that the accident should result in physical or mental harm that affects the worker's ability to perform their duties normally.

Causation between the accident and the harm: This means that there must be a causal relationship between the accident and the harm suffered by the worker.

The suddenness of the accident: This means that the incident causing the workplace accident should occur within a very short period of time and in a sudden manner, distinguishing it from occupational diseases, such as a gas leak leading to an explosion. (B.Léa, 2020).

Causes of Workplace Accidents

The various personal, psychological, and social circumstances related to the worker are considered factors that contribute to workplace accidents.

Environmental and Organizational Factors

Work Pace: Research has shown that a high work pace significantly contributes to workplace accidents. For instance, Salminen et al. (2017) found that employees frequently working in a hurry were much more likely to suffer occupational injuries (25 % vs 8 %, $p < 0.001$), with interruptions further increasing accident risk (OR = 12.06 (Salminen, S., et al, 2017))

Temperature: Temperature is a significant environmental factor affecting occupational safety. Research indicates that workplace accidents increase when temperatures fall below or rise above the optimal thermal comfort range of approximately 21°C–22°C. High temperatures can cause heat stress, dehydration, fatigue, and reduced cognitive performance, while cold temperatures impair dexterity, concentration, and

judgment. Both extreme heat and cold therefore increase the likelihood of occupational injuries, making temperature control an essential preventive measure in workplace safety (Kjellstrom, T., et al., 2016).

Lighting: Recent academic research supports the critical role of appropriate lighting in workplace safety and cognitive performance. Jayawardena et al. demonstrated that high-quality industrial lighting evaluated via metrics such as relative visual performance (RVP) and small target visibility (STV) can markedly reduce accident rates due to better detection of hazards (Jayawardena, S., Morrow, D., & Bhusal, P., 2016).

Dust and dirt: Empirical research indicate that elevated dust levels substantially increase risks to worker health and safety. In Madrid, everyday increases of 10 $\mu\text{g}/\text{m}^3$ in PM_{10} were associated with a 2.5 % rise in outdoor occupational accidents, and NO_2 levels linked to even higher risk (6.4 %) (L. Calderon et al., 2021), a construction-specific study by Lee et al. (2023) confirmed a statistically significant increase in accident probability correlated to PM_{10} concentrations (Lee, M., Jeong, J., & Kim, D, 2023), Recent research emphasizes that workplace dust is not only an environmental issue but also a major occupational safety concern. (Luo, H., Li, X., Li, C., & Wang, J., 2021) demonstrated that prolonged exposure to airborne particulate matter significantly increases respiratory and accident risks in industrial settings. Similarly, (Gutarowska, B. et al., 2018) confirmed that bioaerosols and dust particles contribute to both short- and long-term health problems, directly affecting workers' safety and productivity.

Mechanical Causes: remain a major contributor to workplace accidents. Duarte et al. (2021) provide a systematic review highlighting how heavy machinery is frequently implicated in accidents. Aneziris et al. (2015) analyzed 106 serious and fatal accident reports from Québec and found that many involved contacts with moving machinery parts. A study in Poland further identified that injuries often occur due to rotating elements, crushing actions, or necessary access to dangerous zones during maintenance or adjustments (analysis based on frequency of access and type of hazard (Dźwiarek, M., & Latała, A., 2016).

Personal Factors

Age: The is an important determinant of occupational injury risk. Empirical findings indicate that injury patterns vary significantly across age groups, with younger workers generally experiencing higher rates of non-fatal occupational injuries compared to older workers. This increased vulnerability is largely explained by limited work experience, insufficient safety training, and greater exposure to high-risk tasks, while older workers

tend to exhibit higher injury severity and mortality due to physical decline and reduced recovery capacity. (Salminen, S., 2011)

Expertise: Professional expertise plays a crucial role in preventing occupational hazards, as experienced workers are more familiar with machinery operation and are better able to respond appropriately to operational demands (Arlinghaus et al., 2013).

Visual acuity: Visual performance is an important human factor in occupational safety, as reduced visual capacity increases the risk of accidents, particularly in low-light or night work conditions (Lam, K. B. H. et al., 2012).

The social and economic status of the worker plays a critical role in occupational safety. Socioeconomic conditions are strongly associated with occupational stress, which can negatively affect concentration and decision-making, thereby increasing the probability of workplace accidents. Occupational stress is a major concern for employers and organizations, as it compromises decision-making and the overall safety of workers. Studies indicate that work-related stress contributes to severe mental strain, increased accident rates, and in extreme cases, even suicides (Mohammad Junayed Hasan, et al., 2025).

Fatigue: The influence of fatigue, recovery, and environmental factors on the body stability of construction workers. Sensors.

Intelligence: Workers with high-level emotional intelligence are more likely to cope with occupational health and safety lapses, comply with the organization's safety management practices, exhibit safe working behaviors, and contribute to improving safety performance in the organization. (Nkrumah Nana Kwame Edmund, et al., 2023)

Causes Related to the Worker: Causes Related to the Worker: Causes related to the worker include a range of unsafe behaviors that directly increase the risk of workplace accidents. These include neglecting to wear personal protective equipment (PPE), operating machinery beyond its safe capacity, and working under the influence of drugs or alcohol (Christian, M. S., et al., 2009).

The Relationship between Social Responsibility and Workplace Accidents

Definition of the International Standard ISO 26000

The international standard ISO 26000 is defined as: ISO 26000 is an international standard that provides comprehensive guidance on social responsibility. It is designed to support organizations, including businesses, public administrations, and non-profit associations, ethical principles, transparency in operations, contribution to sustainable

development, consideration of stakeholder interests (such as employees, customers, suppliers, and communities), and compliance with applicable laws and internationally recognized norms of behavior. (International Organization for Standardization ISO 26000, 2010).

Explaining the Sixth Clause of the International Standard ISO 26000, 2010

Firstly, Reasons for Choosing the Sixth Clause of the International Standard ISO 26000, 2010

The ISO 26000: 2010 standard on social responsibility is one of the most comprehensive and widely accepted frameworks for promoting responsible business practices. The first three clauses outline the fundamental principles of social responsibility, while the fourth clause focuses on evaluating the institution's performance in relation to these principles. The fifth clause emphasizes awareness and engagement of stakeholders in social responsibility. However, the sixth clause, which this study concentrates on, addresses crucial areas directly related to improving working conditions to minimize risks leading to workplace accidents.

While prior studies have explored many aspects of corporate social responsibility (CSR), the sixth clause, which deals with work relationships and their conditions, has not received as much attention. This is particularly important because it focuses on improving the work environment and minimizing risks, directly linking to the core focus of this study—reducing workplace accidents. The factors of working conditions, employee participation, and safety regulations under this clause form the conceptual basis for understanding how an organization can enhance safety practices and reduce workplace accidents.

Secondly, the Fundamental Elements of the Sixth Clause of the International Standard ISO 26000, 2010, in the Part Related to Work Relationships and their Conditions Principles and Considerations

The sixth clause outlines several core principles that organizations must adopt to ensure a responsible and safe work environment. Key principles involve ensuring compliance with fundamental human rights, as outlined by the International Labour Organization (ILO) and aligning with the Universal Declaration of Human Rights. Additionally, the standard emphasizes the need for employers to adopt policies that protect workers' rights and promote fairness, equality, and safety.

Description of the Work Field

Recruitment and Employer-Employee Relations: Improving the standard of living through ensuring full, fair employment, job stability, and decent work.

Working Conditions and Protection: This encompasses working conditions, wages, working hours, rest periods, providing health facilities, medical services, and all aspects related to working conditions.

Social Dialogue: It encompasses negotiation or consultation between government representatives and employers regarding social and economic issues.

Occupational Health and Safety: It encompasses all aspects related to occupational health and safety, aiming to promote and maintain the highest level of physical, mental, and social well-being for workers.

Human Capital Development: It includes processes aimed at expanding people's options by developing their capabilities through skill development, training, and learning, providing them with equal opportunities for advancement without discrimination.

Employees are a crucial component of a company's sustainable growth and expect a safe working environment. Consequently, it is important to analyze the factors influencing employee safety. Using data from Korean listed companies between 2012 and 2014, the Ordinary Least Squares (OLS) regression results indicate that higher corporate social responsibility (CSR) scores are associated with a reduction in the number of working days lost due to workplace injuries. (Koo, J. E., & Ki, E. S., 2020)

The Relationship between Social Responsibility and Workplace Accident

The relationship between social responsibility and workplace accidents is clear when we examine the work environment and the impact on workers' safety. ISO 26000 provides specific guidelines for reducing the risks associated with work-related accidents:

Regarding the Work Environment

The sixth clause of the International Standard ISO 26000; 2010 provides a set of guidelines to ensure a safe working environment and to minimize, as much as possible, the risks leading to work-related accidents:

- Providing a clean work environment, along with fair and satisfactory work circumstances.
- Limiting work-related negative risks as much as possible, as well as eliminating psychological and social risks at work, in addition to the risks that increase tension and sickness.

- Allowing workers to participate in the decisions and activities of health and safety.
- Recording, studying, and investigating workplace accidents.
- Developing and distributing safety booklets and training programs, as well as encouraging the workers to implement occupational health and safety standards.

Regarding Workers

- Ensuring fair employment and job stability, in addition to equal opportunities and treatment for all workers.
- Training employees and developing their skills.
- Respecting working hours as stipulated by law and collective agreements.
- Respecting break times and vacations.
- Complying with social protection for workers.
- Taking into consideration all risks associated with the work.
- Providing incentive programs specifically aimed at reducing work-related accidents.

Linking ISO 26000 Guidelines to Workplace Accident Prevention

Building upon the framework of the sixth clause, the study emphasizes the importance of integrating ISO 26000 guidelines into organizational policies to prevent workplace accidents. By ensuring safe working conditions, promoting health and safety education, and maintaining open dialogue with workers, organizations can significantly reduce workplace risks.

Measuring the Impact

This study focuses on several critical areas that directly influence workplace safety, which align with the ISO 26000 guidelines:

- *Awareness of Workplace Accidents:* The effect of raising awareness about workplace safety aligns with ISO 26000 - Workplace conditions and relationships, as awareness fosters safer working behaviors.
- *Implementing Occupational Health and Safety Rules:* This directly aligns with ISO 26000's emphasis on occupational health and safety.
- *Designing Training Programs:* This supports human capital development, encouraging skill development for safer work practices.
- *Social Care for Workplace Accidents:* It aligns with human rights and community engagement, ensuring the organization's responsibility to support employees after accidents.

- *Designing Safe Work Environments*: This relates to environmental safety, which is crucial to preventing accidents and ensuring that employees work in a safe and risk-free environment.

- *Institution's Commitments to Prevent Workplace Accidents*: The organization's commitment to safety supports ISO 26000 - Governance of the organization, demonstrating accountability for employee well-being.

In this conceptual framework, the study uses the ISO 26000 guidelines as the foundation for measuring the impact of various factors on workplace accidents. These include workplace safety practices, health initiatives, and employee participation in safety efforts, all in line with ISO 26000. The next section will outline the methodological framework, detailing the approaches and techniques used to assess these factors and their relationship with workplace accidents.

This study is based on a conceptual framework that links ISO 26000 guidelines to the reduction of workplace accidents through Corporate Social Responsibility (CSR). ISO 26000 serves as a reference framework guiding organizations in implementing socially responsible practices, particularly in labor conditions and occupational health and safety.

CSR practices are operationalized through several key dimensions identified in this study, including awareness of workplace risks, implementation of occupational health and safety rules, training programs, social care for employees, and the design of a safe working environment. These dimensions contribute to improving workplace safety conditions.

Based on the empirical results obtained from the case study of ENAFOR, these CSR-related practices have a significant effect on reducing workplace accidents. Therefore, workplace safety acts as a mediating mechanism between CSR implementation and accident reduction.

Research Methodology

After presenting the theoretical aspect of social responsibility and workplace accidents and discussing the relationship between them, which allowed us to understand the role of social responsibility in reducing workplace accidents, it is now time to move on to the practical aspect. This involves examining one of the institutions, specifically the National Drilling Company (ENAFOR), to assess the extent of its commitment to social responsibility in reducing workplace accidents. This will be achieved through distributing a questionnaire to its employees.

Study Approach

Methodology is a set of processes and steps followed by the researcher; to achieve the study objectives.

The adopted methodology in this study is the descriptive-analytical methodology. This type of research falls within the descriptive research category, which aims to collect data related to certain characteristics of the statistical population. This type of study relies on statistical analysis in data processing, the conducted tools in the current study are as follow:

Records and documents: are among the most important sources that researchers rely upon to gather data. Records and documents were utilized to obtain information about: the institution's identification organizational structure, tasks, general policies, and key objectives.

Observation: This involved familiarizing oneself with the workplace (construction sites) of the original community under study, the surrounding conditions, as well as the safety measures they employ, and their behaviors during work.

Questionnaire: The questionnaire was divided into three parts

- The first part consisted of personal data of the study sample.
- The second part focused on the independent variable, which is social responsibility.
- The third part was related to the dependent variable, which is workplace accidents.

Study Sample and Population

The petroleum sector in Algeria was chosen as the study population, with a focus on the National Drilling Company (ENAFOR).

To achieve the study's objectives, 110 questionnaires were distributed to the workers of the institution, with 108 retrieved. Four questionnaires were excluded due to their unsuitability for analysis. Therefore, the number of questionnaires valid for analysis is 104, as shown in the following table:

Study Scale: The Likert five-point scale was used, which is considered one of the most commonly used scales for measuring weights and their scores.

Cronbach's Alpha Scale: It is used to measure the reliability of the study tool (questionnaire) and to calculate the internal consistency coefficient of the questionnaire items with their axes.

Spearman's Correlation Coefficient: This coefficient is used to determine the degree of correlation between each statement in the questionnaire and the total score of the axis to which it belongs.

Frequencies and Percentages: Used to identify the personal characteristics of the study's items, and to determine individuals' responses to these statements included in the tool.

Arithmetic mean: It is one of the most important statistical tools, as it helps researchers interpret and analyze phenomena well, in order to determine the rise and fall of responses from the study sample to each item of the questionnaire. Through it, each element can be arranged according to the highest mean.

Standard deviation: It is a measure of dispersion, helping researchers to understand the degree of deviation of scores from the arithmetic mean.

One-Way ANOVA (Analysis of Variance) test: It is used to determine differences in sample responses.

Statistical Design of the Study

Testing the Validity and Reliability of the Study

Face Validity

The questionnaire was presented to a group of employees and managers in the institution under study to assess the accuracy of formulating questionnaire items. Additionally, it was presented to a group of professors at the National School of Management to study any suggested modifications by the reviewers to some questionnaire items.

Study Reliability

To measure the accuracy of the questionnaire, the Cronbach's Alpha coefficient was utilized, indicating the consistency and correlation among the questionnaire items. It is necessary to obtain a percentage greater than the statistically acceptable percentage, which is estimated to be 60%, as shown in the following table:

Table no. 2. Illustrates the Cronbach's Alpha reliability coefficient for the questionnaire.

Questionnaire	Number of Items:	Cronbach's Alpha Coefficient	Ratio of validity and reliability
Social Responsibility Axis	34	0.962	96%
Workplace Accidents Axis	16	0.83	83%
The overall reliability rate of the questionnaire	50	0.963	96%

Source: Prepared by the researcher relying on the SPSS outcomes.

Through the table, we notice that the reliability coefficient of Cronbach's Alpha for the questionnaire items, whether related to the dependent variable or the independent variable, exceeds 80%. This indicates the presence of consistency and correlation among the questionnaire items. Since the statistically acceptable percentage is 60%, this confirms the stability and validity of our study tool.

Presenting and Analyzing the Results

In this study, the results of the questionnaire study will be presented, along with a discussion of the findings obtained after analyzing the data and verifying the validity of the hypotheses.

Presentation and Analysis of Personal Characteristics Results

Distribution of Sample Individuals by Gender, Age, and Social Status

Data Related to Gender

Table no. 3. Illustrates the Distribution of Sample Individuals by Gender

Gender	Frequencies	Percentage
Male	104	100 %
Female	0	0%

Source: Prepared by the researcher relying on the SPSS outcomes.

From the table above, we notice that the entire study sample consists of males, accounting for 100%. This can be attributed to the nature of the work, which requires physical effort and strength that are typically not associated with women. Additionally, the nature of the work involves night shifts to ensure the continuity of production operations. Such shift patterns are challenging for women, especially in our Algerian society, where it may be difficult for women to commit to working during nighttime hours. Moreover, the physical conditions at the construction sites, including high temperatures and the manual handling of equipment, make it physically demanding for women. The physiological nature of women may not allow them to withstand such physical exertion. Consequently, women are more concentrated in administrative positions. This observation was noted during my survey visit to the institution.

Distribution of Sample Individuals by their Job Position, Educational Qualification, and Vocational Experience

Distribution of Sample Individuals by their Job Position

Table no. 4. Illustrates the Distribution of Sample Individuals by their job position

Job position	Frequencies	Percentage
Cadre	26	25%
Control Assistant	29	27.9%
Implementation Assistant	49	47.1%

Source: Prepared by the researcher relying on the SPSS outcomes.

From the table above, we notice that the highest percentage in the professional level was for the category of implementation assistants at 47.1%. This is attributed to the nature of the assigned tasks, in addition to being the selected sample. Following them is the category of control assistants at 27.9%, which is also due to the distribution of tasks, as there are implementation workers who work under the supervision of construction site supervisors. Finally, the category of cadres accounted for 25%, as this type of institution employs a larger number of implementation workers due to the nature of its activities.

Analyzing the impact of corporate social responsibility on workplace accident occurrence

Studying the impact of social responsibility on work accidents

Studying the impact of awareness of the dangers of workplace accidents on the dependent variable (workplace accidents)

We suppose that:

H1: There is an effect of the axis of awareness of the dangers of workplace accidents on workplace accidents at a significance level of 0.05.

H0: There is no effect of the axis of awareness of the dangers of workplace accidents on workplace accidents at a significance level of 0.05.

Table no. 5. Linear Regression Analysis of the Effect of Workplace Risk Awareness on Workplace Accidents

Variance	Total Boxes	Degree of Freedom	Medium Boxes	Arithmetic Value (F)	Intangible value Sig
Between groups	7.807	1	7.807	31.708	0.000
Within groups	25.113	102	0.246	At function level: Alfa=0.05	
Total Variance	32.919	103		R= (0.487)	R ² = (0.237)

Source: Prepared by the researcher relying on the SPSS outcomes.

The table no. 5 above shows that the calculated value of (F) is (31.708) at a degree of freedom of (1 and 275) and a significance level (Sig) of (0.000), which is less than the accepted level of significance (0.05) for this study. This necessitates rejecting the null hypothesis and accepting the alternative hypothesis, which suggests an effect of awareness of the dangers of workplace accidents on workplace accidents. This is evident from the correlation coefficient, which is estimated at (0.487), and the determination coefficient, which is (0.237). This means that only (23.7%) of the variations observed in the dependent variable can be attributed to the independent variable "awareness of the dangers of workplace accidents".

Studying the effect of implementing occupational health and safety rules on workplace accidents

We suppose that:

H1: There is an effect of implementing occupational health and safety rules on workplace accidents at a significance level of 0.05.

H0: There is no effect of implementing occupational health and safety rules on workplace accidents at a significance level of 0.05.

Table no. 6. Linear Regression Analysis of the Effect of Occupational Health and Safety Rules Implementation on Workplace Accidents

Variance	Total Boxes	Degree of Freedom	Medium Boxes	Arithmetic Value (F)	Intangible value Sig
Between groups	13.575	1	13.575	37.390	0.000
Within groups	37.034	102	0.363	At function level: Alfa=0.05	
Total Variance	50.609	103		R = (0.518)	R ² = (0.268)

Source: Prepared by the researcher relying on the SPSS outcomes.

The table above, numbered (33), shows that the calculated value of (F) is (37.390) with degrees of freedom (1 and 102) and a significance level (Sig) of (0.000), which is less than the accepted level of (0.05) for this study. This necessitates rejecting the null hypothesis and accepting the alternative hypothesis, which indicates an effect between implementing occupational health and safety rules and workplace accidents. This is evident from the correlation coefficient, which is estimated at (0.518), and the coefficient of determination, which is (0.268). This means that only (26.8%) of the variations in the dependent variable are attributed to the independent variable "implementing occupational health and safety rules".

Studying the effect of designing training courses on the dependent variable (workplace accidents)

We suppose that:

H1: There is an effect of designing training courses on workplace accidents at a significance level of 0.05.

H0: There is no effect of designing training courses on workplace accidents at a significance level of 0.05.

Table no. 7. Linear Regression Analysis of the Effect of Training Programs on Workplace Accidents

Variance	Total Boxes	Degree of Freedom	Medium Boxes	Arithmetic Value (F)	Intangible value Sig
Between groups	12.046	1	12.046	16.340	0.000
Within groups	75.191	102	0.737	At function level: Alfa=0.05	
Total Variance	87.237	103		R= (0.372)	R ² = (0.138)

Source: Prepared by the researcher relying on the SPSS outcomes.

The table above (Table no 7) shows that the calculated value of (F) is (16.340) with degrees of freedom (1 and 102) and a significance level (Sig) of (0.000), which is less than the predetermined level of significance (0.05) for this study. This necessitates rejecting the null hypothesis and accepting the alternative hypothesis, which suggests an effect between designing training courses and workplace accidents. This is evident from the correlation coefficient estimated at (0.372) and the coefficient of determination, which reached (0.138), indicating that only (13.8%) of the variations observed in the dependent variable are attributed to the independent variable "designing training courses".

Studying the effect of social care for workplace accidents on the dependent variable (workplace accidents)

We suppose that:

H1: There is an effect of social care for workplace accidents on workplace accidents at a significance level of 0.05.

H0: There is no effect of social care on workplace accidents at a significance level of 0.05.

Table no. 8. Linear Regression Analysis of the Effect of Employee Social Care on Workplace Accidents

Variance	Total Boxes	Degree of Freedom	Medium Boxes	Arithmetic Value (F)	Intangible value Sig
Between groups	19.147	1	19.147	42.234	0.000
Within groups	46.482	102	0.456	At function level: Alfa=0.05	
Total Variance	65.729	103		R= (0.541)	R ² = (0.293)

Source: Prepared by the researcher relying on the SPSS outcomes.

The table above (Table no 8) indicates that the calculated value of (F) is (42.234) with degrees of freedom (1 and 102) and a significance level (Sig) of (0.000), which is less than the predetermined level of significance (0.05) for this study. This necessitates rejecting the null hypothesis and accepting the alternative hypothesis, which suggests an effect of social care workplace accidents. This is evident from the correlation coefficient estimated at (0.541) and the coefficient of determination, which is (0.293), indicating that (29.3%) of the variations observed in the dependent variable are attributed to the independent variable "social care for work accidents".

Studying the effect of designing a safe work environment on the dependent variable (workplace accidents)

We suppose that:

H1: There is an effect of designing a safe work environment on workplace accidents at a significance level of 0.05.

H0: There is no effect of designing a safe work environment on workplace accidents at a significance level of 0.05.

Table no. 9. Linear Regression Analysis of the Effect of Safe Work Environment Design on Workplace Accidents

Variance	Total Boxes	Degree of Freedom	Medium Boxes	Arithmetic Value (F)	Intangible value Sig
Between groups	9.748	1	9.748	25.904	0.000
Within groups	38.386	102	0.376	At function level: Alfa=0.05	
Total Variance	48.134	103		R= (0.450)	R ² = (0.203)

Source: Prepared by the researcher relying on the SPSS outcomes.

The table above (Table no 9) indicates that the calculated value of (F) is (25.904) with degrees of freedom (1 and 102) and a significance level (Sig) of (0.000), which is less than the predetermined level of significance for this study. This necessitates rejecting the null hypothesis and accepting the alternative hypothesis, which suggests an effect between designing a safe work environment and workplace accidents. This is evident from the correlation coefficient estimated at (0.450) and the coefficient of determination, which is (0.203), indicating that only 20.3%) of the variations observed in the dependent variable are attributed to the independent variable "designing a safe work environment".

Studying the effect of the institution's commitments to prevent workplace accidents on the dependent variable (workplace accidents)

We suppose that:

H1: There is an effect of the institution's commitments to prevent workplace accidents on workplace accidents at a significance level of 0.05.

H0: There is no effect of the institution's commitments to prevent workplace accidents on workplace accidents at a significance level of 0.05.

Table no. 10. Linear Regression Analysis of the Effect of Organizational Commitment to Accident Prevention on Workplace Accidents

Variance	Total Boxes	Degree of Freedom	Medium Boxes	Arithmetic Value (F)	Intangible value Sig
Between groups	12.849	1	12.849	32.582	0.000
Within groups	40.224	102	0.394	At function level: Alfa=0.05	
Total Variance	35.073	103		R= (0.492)	R ² = (0.242)

Source: Prepared by the researcher relying on the SPSS outcomes.

The table above (Table no 10) shows that the calculated value of (F) is (32.582) with degrees of freedom (1 and 102) and a significance level (Sig) of (0.000), which is less than the predetermined level of significance for this study. This necessitates rejecting the null hypothesis and accepting the alternative hypothesis, which suggests an effect between the organization's commitments to prevent workplace accidents and workplace accidents. This is confirmed by the correlation coefficient estimated at (0.4) and the coefficient of determination, which is (0.242), indicating that only (24.2%) of the variations observed in the dependent variable are attributed to the independent variable "organization's commitments to prevent work accidents".

Discussing the Results and Testing the Hypotheses

Discussing the Results

The results of this study clearly demonstrate that social responsibility dimensions have a statistically significant effect on reducing workplace accidents at ENAFOR, as all tested hypotheses were validated at a significance level of 0.05 (Sig = 0.000).

However, beyond statistical significance, the explanatory power (R^2) of each variable provides deeper insight into their relative effectiveness, revealing important managerial implications.

The majority of the study sample consists of males, with a lack of female representation. This result is reasonable in this type of work, which is more suitable for males than females. Additionally, most of the study sample falls within the age range of 35 to 40 years old, considered a youthful demographic capable of contributing to the organization's advancement. Furthermore, the results indicate that the majority of the study sample are married individuals, suggesting their ability to bear responsibility and cover family expenses due to the good wages provided by the organization.

Moreover, most of the study sample are executive workers, which is natural as they are the most sought-after category in the petroleum industry. Regarding educational qualifications, the results indicate that the majority of the study sample have higher education degrees, suggesting that the organization carefully selects its employees, as it is a major contributor to the national economy, requiring knowledgeable and competent workers.

Lastly, the results indicate that the most experienced segment of the study sample has experience ranging from 15 to 20 years, indicating the job security and stability enjoyed by the organization's workers.

Awareness of workplace accident risks ($R^2 = 23.7\%$)

The findings indicate that awareness plays a moderate but essential role in reducing workplace accidents. This suggests that when employees are informed about risks, their behavior becomes more cautious, reducing unsafe practices.

However, the relatively limited explanatory power (23.7%) indicates that awareness alone is insufficient. This aligns with safety literature, which shows that knowledge must be reinforced by organizational systems and supervision to translate into safer behavior.

This can be attributed to the institution's concern for its employees and their awareness of the dangers of workplace accidents. The institution achieves this through scheduling awareness-raising courses on work-related accidents, as observed within the

institution. Additionally, regular discussions among workers are held to address safety and security topics (Safety meetings). Furthermore, during a field visit to one of the construction sites, a group of warning signs was observed around certain areas in the construction site that require precautions when approaching them. Awareness is a necessary but not sufficient condition for accident prevention

Implementation of health and safety rules ($R^2 = 26.8\%$)

This variable exhibits a strong effect, indicating that formal safety procedures and compliance mechanisms significantly contribute to reducing workplace accidents, a result that is consistent with field observations conducted at a remote construction site. It was noted that a mobile medical system is accompanying the construction site, equipped with all necessary medical equipment and capable of providing emergency medical care, overseen by a general physician and a nurse. Additionally, the institution mandates periodic medical check-ups for its workers every six months, in addition to initial medical examinations for new hires, as stipulated by its internal regulations. As for the provision of safety equipment to workers, it is difficult for workers to obtain them, as reflected in their high rate of disagreement and neutrality in their responses. While the institution provides safety equipment to workers, they do not pay much attention to them, as observed in some construction sites where helmets and gloves are found discarded on the ground. Regarding the institution's concern for the psychological health of workers in case of workplace accidents, most of the study participants indicated a strong disagreement. The institution provides psychological medical supervision in case of major and serious accidents, which rarely occur. Additionally, it has a department responsible for addressing workers' psychological cases, overseen by a specialized psychiatrist. Workers can contact this department, but most of them do not have the time to do so due to their work schedules and the distances from the construction sites. This result reflects the importance of: Enforcement of safety protocols; Monitoring systems; Organizational discipline. Safety rules are effective only when actively implemented, not just documented.

designing training ($R^2 = 13.8\%$)

Training has the lowest explanatory power among all variables. This is a critical finding. Most of the institution's staff have benefited from training courses in occupational health and safety, enabling them to understand the risks associated with their positions and thereby help to avoid them. This indicates the success of these courses. Additionally, the institution identifies training needs based on its observation of the increase in accidents, which helps uncover the reasons behind them for the workers and ways to avoid them. It

suggests that: Training programs may be too theoretical; Lack of practical simulations; Weak follow-up after training. Training at ENAFOR may lack effectiveness and operational integration, limiting its impact on real behavior.

Social care for employees ($R^2 = 29.3\%$) Strongest effect

This is the most influential variable in our model, Regarding the institution's tracking of the medical file of the injured worker, most ratings ranged between neutral and disagreement. At the institutional level, this process is well-managed; however, obstacles at the level of social security interests, including difficulties in investigating the victim in a workplace accident or in communicating with the worker who has stopped working and tracking their health status. Similarly, the institution's commitment to providing social services rights in case of workplace accidents yielded similar results due to the affiliation of the national company with the Petroleum Industry Mutual Aid Fund, which compensates workers in some cases resulting from workplace accidents (such as surgeries and medical treatments). However, the process involves monthly contributions from both the institution and the workers, leading to delays in workers benefiting from their rights, as observed through continuous complaints from workers. On the other hand, the item regarding the institution's declaration to social security authorities within the specified deadlines in case of workplace accidents received strong approval from workers, as evidenced by their responses and observations during the internship period. During this period, I/we supervised the preparation of a medical file for a worker involved in a workplace accident and the submission of both electronic and paper declarations to social security authorities within the legal deadlines. Additionally, the institution provides an alternative job position for the worker affected by the workplace accident and unable to continue in the previous position due to their health condition, as confirmed by the strong agreement in the workers' responses and their personal statements during interviews. This result highlights that workers who feel valued are: More engaged; More compliant with safety rules; Less prone to risky behavior. Safety is not only technical — it is deeply human and social.

Designing Safe work environment ($R^2 = 20.3\%$)

The physical and technical work environment has a moderate effect, indicating that equipment quality, ergonomics, and workplace design directly influence the occurrence of workplace accidents. This was further supported by direct observations made during the second visit to one of the company's construction sites, where various alarm devices, including sirens and warning lights, were identified. Additionally, the construction site contained a storage area with all the personal protective equipment designated for the

workers. Furthermore, the construction site was equipped with all safety equipment, such as small and large fire extinguishers, fire extinguisher covers, and oxygen masks. A safe environment reduces risk exposure but must be combined with human and organizational factors.

Organizational commitment ($R^2 = 24.2\%$)

The commitment of the organization reflects: Leadership involvement; Safety policies; Strategic orientation. The majority of workers agree that the organization fulfills its obligations in preventing workplace accidents, as reflected in the strong agreement with its items based on the responses of the study participants. This was indeed observed during the internship period, where the institution's concern for reporting workplace accidents by the construction site supervisor and investigation by a special committee was noted. Additionally, through reviewing the institution's internal regulations, which stipulate the obligation to respect health and safety rules set by everyone (workers or officials), leaving no room for any leniency in case of negligence. Furthermore, during visits to a group of construction sites, it was noticed that each construction site has an HSE supervisor whose job is to monitor the workers' compliance with safety rules and precautions, warning them in case of non-compliance. This explains the strong agreement with the items of this axis. The results confirm that when management is committed, safety performance improves. Top management commitment is a key driver of safety culture.

Based on the objectives of the study and the principles of corporate social responsibility defined by ISO 26000, the analysis focused on examining the relationship between social responsibility practices and workplace accidents at the National Drilling Company (ENAFOR). The empirical findings provide evidence supporting the assumption that the application of ISO 26000 guiding principles contributes to a reduction in workplace accidents.

The results indicate a strong and statistically significant relationship between social responsibility practices and the reduction of workplace accidents. These findings suggest that the implementation of ISO 26000 principles plays a critical role in enhancing occupational safety and minimizing accident risks within ENAFOR. Among the examined dimensions, the “Social Care for Employees” indicator emerges as the most influential factor in the model, demonstrating the strongest explanatory power ($R^2 = 29.3\%$). This result can be explained by the fact that employee-centered policies such as organizational support, improved working conditions, social protection, and responsiveness to workers’

needs foster a climate of trust and engagement, which in turn promotes safer behaviors and significantly reduces accident risks.

Furthermore, the analysis shows that employees' awareness of workplace hazards has a statistically significant and positive effect on reducing accidents. The results indicate that increasing awareness and understanding of occupational risks encourages safer employee behaviors and effectively prevents accidents.

In addition, the application of occupational health and safety rules demonstrates a significant impact on accident reduction. Compliance with safety procedures and regulations strengthens workplace protection and significantly decreases the occurrence of occupational accidents.

Finally, the design of a safe working environment emerges as a key factor in accident prevention. The evidence confirms that improving workplace design and safety conditions substantially contributes to reducing workplace accidents by minimizing exposure to physical and organizational hazards.

Overall, these results collectively support the expected relationships derived from the literature and ISO 26000 guidelines, confirming that CSR-oriented practices related to occupational health and safety constitute an effective mechanism for reducing workplace accidents at the National Drilling Company (ENAFOR).

This study extends existing CSR literature by empirically examining the impact of ISO 26000 guidelines on workplace safety within the Algerian context, particularly in the petroleum sector. While previous studies, such as those by Bautista-Bernal et al. (2024) and Koo and Ki (2020), have established a clear connection between CSR and workplace safety outcomes in developed countries, little research has been conducted in developing countries, especially in regions like Algeria, where workplace safety is critical due to the hazardous nature of the industry.

By focusing on the application of ISO 26000, this research uniquely contributes to the literature by addressing how CSR, as operationalized through ISO guidelines, can lead to significant reductions in workplace accidents. Additionally, it explores how employee engagement, safety culture, and risk management contribute to organizational performance in a non-Western context—a gap that has not been thoroughly explored in the CSR field.

Conclusion

The findings of this study provide strong empirical evidence of the significant positive impact of the ISO 26000 guidelines on workplace safety performance within the

National Drilling Company (ENAFOR) in Algeria. The results demonstrate that the implementation of CSR-oriented practices particularly employee social care, occupational health and safety rules, awareness of workplace risks, and training programs contributes effectively to reducing workplace accidents. Among all examined dimensions, social care for employees emerges as the most influential factor, highlighting its critical role in strengthening employee well-being, building organizational trust, and fostering a supportive work environment that directly enhances safety outcomes.

The results further confirm that a structured and proactive safety culture, supported by systematic risk management practices and continuous employee engagement, plays a central role in minimizing occupational accidents. In this regard, employee training and risk awareness are important preventive tools; however, their effectiveness becomes significantly stronger when they are combined with strong organizational commitment to employee welfare and safety-oriented CSR practices.

From a theoretical perspective, this study contributes to the existing literature by providing robust empirical evidence from a developing country context, where research on CSR and workplace safety remains limited. It extends the understanding of how CSR practices especially employee-centered social responsibility translate into measurable safety outcomes, thereby filling an important gap in previous studies that have largely focused on developed economies.

From a practical and managerial perspective, the study demonstrates that integrating CSR principles into organizational systems is not merely an ethical requirement but a strategic tool for improving operational performance. The findings suggest that investing in employee well-being and social support mechanisms leads to tangible reductions in workplace accidents and enhances overall organizational efficiency. This makes CSR a key driver of sustainable performance, particularly in high-risk industries such as oil and gas.

To enhance the implementation of social responsibility practices and further reduce workplace accidents, several targeted recommendations are proposed. First, organizations should ensure both the availability and mandatory use of updated occupational safety equipment to minimize exposure to risks. Second, greater attention should be given to employees' mental health following workplace accidents through structured follow-up mechanisms, including site visits and individual or group support sessions. Third, accident analysis systems should be strengthened, especially for recurring incidents, in order to identify root causes and adapt training programs more effectively. Finally, employee participation should be actively encouraged in the development and improvement of

occupational health and safety programs, as greater involvement enhances safety awareness, ownership, and compliance.

Overall, this study offers significant scientific and practical value. Scientifically, it enriches the CSR literature by providing empirical evidence on the relationship between social responsibility practices and workplace safety in a developing country context, an area still underexplored. Practically, it provides actionable insights for organizations seeking to improve safety performance through CSR integration. The study also demonstrates that employee social care is a key strategic lever for reducing accidents and improving organizational resilience. Ultimately, the research highlights that embedding CSR practices within organizational strategies can serve as an effective pathway toward sustainable development, improved working conditions, and enhanced long-term organizational performance, offering a transferable model for other companies operating in similar high-risk environments

Study Limitations

- Temporal Limitations: This study was conducted during the second semester of the 2023-2024 academic year, spanning a period of 4 months, from February 12, 2023, to May 3, 2023.

- Spatial Limitations: The study was conducted at the National Drilling Company (ENAFOR) in Hassi Messaoud municipality – Wilaya (province) of Ouargla.

- Human Limitations: The study was limited to a specific category of workers within the institution, namely, the construction site workers.

- Topic Limitations: Our study was limited to the sixth clause of the International Standard for Social Responsibility, ISO 26000, which pertains to work relationships and conditions.

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